

In re Patent Application of:

BRICHER ET AL.

Serial No. **10/806,667**

Filed: **March 23, 2004**

REMARKS

The Examiner is thanked for the thorough examination of the present application. The Examiner is also thanked for the courtesies extended during the telephonic interview of October 30, 2008, during which the current claim rejections were discussed.

Independent Claims 1, 23, and 27 have been amended to include subject matter similar to that of dependent Claim 3. Accordingly, no new issues are presented by the claim amendments.

Dependent Claims 3, 25, and 29 have been cancelled for consistency. Independent Claims 1, 23, and 27 have also been amended to remove the recitation of a plurality of different connectors for coupling the cryptographic module to different network devices. New dependent Claims 35 and 36 have been added to include the subject matter removed from Claims 23 and 27. The patentability of the claims is discussed below.

I. The Claimed Invention

As recited in amended independent Claim 1, for example, the cryptographic device includes a cryptographic module and a communications module removably coupled thereto. More particularly, the cryptographic module comprises a first housing, a user network interface carried by the first housing, a cryptographic processor carried by the first housing and coupled to the user network interface, and a first connector carried by the first housing and coupled to the cryptographic processor. The communications module includes a second housing, a second

In re Patent Application of:

BRICHER ET AL.

Serial No. **10/806,667**

Filed: **March 23, 2004**

connector carried by the second housing and removably mateable with the first connector of the cryptographic module, a network interface carried by the second housing and coupled to the second connector, and at least one logic device for cooperating with the cryptographic processor. Independent Claim 1 has been amended to further recite the logic device cooperates with the cryptographic processor to determine at least one of a type of communications module and an operating status of the communications module.

Independent Claim 13 is directed to a related cryptographic device and further recites the user Local Area Network (LAN) comprising a plurality of different connectors for coupling the cryptographic module to different network devices. Amended independent Claim 23 is directed to a related communications method, and amended independent Claim 27 is directed to a related communications system. Independent Claims 23 and 27 have been amended similar to amended independent Claim 1.

II. The Claims Are Patentable

The Examiner rejected independent Claim 13 and former dependent Claims 3, 25, and 29 over Dhir et al. in view of Cheng, and further in view of Allmond et al. Former dependent Claims 3, 25 and 29 correspond to amended independent Claims 1, 23 and 27. Even a selective combination of the prior art fails to disclose at least one logic device for cooperating with the cryptographic processor to determine at least one of a type of communications module and an operating status of the communications module.

Dhir et al. is directed to a programmable integrated

In re Patent Application of:

BRICHER ET AL.

Serial No. **10/806,667**

Filed: **March 23, 2004**

circuit, namely a field programmable gate array (FPGA), that can be used to handle different wireless local area network (WLAN) communication specifications. The integrated circuit includes a transceiver coupled to programmable gates, a memory coupled to the programmable gates for storing instructions for programming a first portion of the programmable gates with a selected one of a first type of a medium access layer and a second type of a medium access layer. The first type of the medium access layer is different from the second type of medium access layer, though both the first type of the medium access layer and the second type of the media access layer are compatible with the transceiver. The memory is configured for storing instructions for programming a second portion of the programmable gates as a baseband controller.

While the Examiner correctly acknowledges that Dhir et al. fails to teach a cryptographic module and a communications module that are removably coupled to one another, and a user network interface that includes a plurality of different connectors for coupling the cryptographic module to the user network interface, the Examiner contends that Cheng provides some of these critical deficiencies. More particularly, the Examiner contended that Cheng discloses a cryptographic module and a communications module that are removably coupled to one another. Cheng is directed to an add-on card for a computer that is detachable from the computer and allows the computer to communicate with both wired and wireless networks. The add-on card includes an access control circuit, volatile and non-volatile memory, a wireless transmission module, and a network

In re Patent Application of:

BRICHER ET AL.

Serial No. **10/806,667**

Filed: **March 23, 2004**

connection module. The network connection module has both an antenna for communicating with a wireless network, and a standard network cable port for connecting to a wired network.

The Examiner still further recognized that even a selective combination of Dhir et al. and Cheng fails to disclose the user network interface carried by the first housing comprising a plurality of different connectors for coupling the cryptographic module to different network devices. The Examiner turned to yet a third reference, Allmond et al., in an attempt to supply this critical deficiency. Allmond et al. is directed to an automatic communications protocol detection system. More particularly, Allmond et al. discloses a network for interconnecting a plurality of data devices. Data devices include any source or destination of data to the network, including a computer, workstation, file server, hub, NIC, concentrator, modem, printer, or other device that can receive or transmit data in the network. The network also includes an adaptive repeater. The data devices may be coupled to the repeater via connectors, which may be RJ-45, FDDI, BNC, and SMA connectors, for example.

Applicants point out that the claim recitation of the user network interface carried by the first housing comprising a plurality of different connectors for coupling the cryptographic module to different network devices has been removed from amended independent Claims 1, 23, and 27. Accordingly, Applicants understand that the Examiner's rejection of these claims would not further rely on Allmond et al.

Applicants submit that the Examiner mischaracterized

In re Patent Application of:

BRICHER ET AL.

Serial No. **10/806,667**

Filed: **March 23, 2004**

the prior art in that even a selective combination of Dhir et al. and Cheng fails to disclose at least one logic device for cooperating with the cryptographic processor to determine at least one of a type of communications module and an operating status of the communications module. The Examiner contended that the programmable logic device 120 of Dhir et al. corresponds to the claimed logic device and further turned to Col. 3, lines 1-17 of Dhir et al. to support his contention. Nowhere in Col. 3, lines 1-17, or anywhere else in Dhir et al., does it disclose at least one logic device for cooperating with the cryptographic processor to determine at least one of a type of communications module and an operating status of the communications module.

Instead, programmable input/output blocks are provided with a radio and have configuration logic blocks coupled thereto. The configuration logic blocks are selectively programmed with a medium access control layer. (See Dhir et al., Col. 3, lines 1-17). Moreover, programmable logic fabric 120 of Dhir et al. includes fixed logic components embedded therein allowing high speed data processing. (See Dhir et al., Col. 4, line 67- Col. 68, line 2).

The Examiner further turned to Cheng to support his contention that a selective combination of Dhir et al. and Cheng discloses the invention, as recited in the amended independent claims. In particular, the Examiner contended that Cheng "further disclose[s] the communication module comprising at least one of a type of communication module and an operating status," and referred to Figure 4, elements ANT2, PHY2, and the abstract, lines 6-11 of Cheng. As an initial matter, amended independent

In re Patent Application of:

BRICHER ET AL.

Serial No. **10/806,667**

Filed: **March 23, 2004**

Claims 1, 23, and 27, and independent Claim 13 recite the at least one logic device for cooperating with the cryptographic processor to determine at least one of a type of communications module and an operating status of the communications module.

Moreover, lines 6-11 of the abstract of Cheng disclose:

The network connection module has both an antenna for communicating with a wireless network, and a standard network cable port for connecting to a wired network. The network connection module can be detachable from the add-on card to allow for various network configurations.

Still further, ANT2 and PHY2 are an antenna circuit and a connecting circuit respectively, and have the same functions as ANT1 and PHY2. (See Cheng, Paragraph 0026). The antenna circuit ANT1 is connected to a radio frequency circuit 26C, which is positioned on the non-detachable portion, and can transmit radio signals in a wireless manner. Similarly, the connecting circuit PHY1 is connected to the MAC circuit, which is in the non-detachable portion. (See Cheng, Paragraphs 0019, 0020, and Figs. 2 and 4). Indeed, nowhere in the Examiner's cited portions of Cheng, or anywhere else in Cheng, does it disclose at least one logic device for cooperating with the cryptographic processor to determine at least one of a type of communications module and an operating status of the communications module. Regarding independent Claim 13, Allmond et al. does nothing to supply any of the above-noted deficiencies of Dhir et al. or Cheng. Accordingly, amended Claims 1, 23, and 27, and independent Claim 13 are patentable.

In re Patent Application of:

BRICHER ET AL.

Serial No. **10/806,667**

Filed: **March 23, 2004**

Applicants further submit that the Examiner's combination of Dhir et al., and Cheng is improper, as a person having ordinary skill in the art would not turn to Cheng to combine with Dhir et al. to arrive at the claimed invention, as recited in the amended independent claims. More particularly, Dhir et al. is directed to a programmable logic device for a WLAN. The communications module and the cryptographic module are purposely on a single circuit board (330), as illustrated in Fig. 8 of Dhir et al. Combining Dhir et al. with Cheng so that the communications module and the cryptographic module would be removably coupled would require splitting the communications and cryptographic modules from the single circuit board.

Moreover, using Cheng as a motivation to modify Dhir et al. would result in arbitrarily dividing the circuitry of Dhir et al. between the antenna 336 and the WLAN transceiver 301, the antenna being outside the circuit board and downstream from both the communications and cryptographic modules. This is because Cheng discloses removably coupling the communications modules to a connector portion, including a physical connector and antenna. Accordingly, even if there was some proper motivation to combine Dhir et al. and Cheng, the claimed invention is not produced because the removable coupling is not between the communications module and the cryptographic module.

Still further, one of ordinary skill in the art would not turn to the programmable integrated circuit from Dhir et al. to combine with the add-on card for a computer that is detachable from the computer and allows the computer to communicate with both wired and wireless networks from Cheng. In other words, the

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BRICHER ET AL.

Serial No. **10/806,667**

Filed: **March 23, 2004**

Examiner is attempting to combine an FPGA for a wireless LAN with a PCMCIA network add-on card. Moreover, a person having ordinary skill in the art would not turn to the communication protocol detection system in Allmond et al., or more particularly, the repeater (or more simply, the hub) of the detection system, to combine with either Dhir et al. or Cheng. Applicants submit that the Examiner is merely combining disjoint pieces of the prior art in an attempt to arrive at the claimed invention. Accordingly, it is submitted that the Examiner's combination of references is improper.

Accordingly, it is submitted that amended independent Claims 1, 23, and 27 and independent Claim 13 are patentable over the prior art. Their respective dependent claims, which recite yet further distinguishing features, are also patentable over the prior art and require no further discussion herein.

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Serial No. **10/806,667**

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III. CONCLUSION

In view of the amendments and arguments provided herein, it is submitted that all the claims are patentable. Accordingly, a Notice of Allowance is requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,



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